

From: [Sivak, Michael](#)
To: [Mitchell, Tanya](#)
Subject: RE: Rolling Knolls - RE: Rolling Knolls Data Gap Sampling 2014 Update
Date: Tuesday, March 17, 2015 9:45:00 AM

Tanya,

These comments look good. I have nothing to add.

Michael Sivak
212.637.4310

From: Mitchell, Tanya

Sent: Monday, March 16, 2015 3:26 PM

To: Mishkin, Katherine; Clemetson, Michael; Sivak, Michael; Hagerman, Paul; Ricky Chenenko (ChenenkoRA@cdmsmith.com); Amy Darpinian

Subject: FW: Rolling Knolls - RE: Rolling Knolls Data Gap Sampling 2014 Update

Hello All,

Below is a summary of comments received regarding the Data Gaps sampling results. It appears that all is in agreement that additional soil sampling is required. Sediment and surface water samples could potentially be conducted during the pre-design. I would like to further discuss additional sampling next week on a conference call. I will check dates and times and forward a meeting request this week.

If you did not have a chance to add your comments or would like to add to the following, please feel free to copy all on the distribution list.

Thanks,

Tanya

(EPA)Additional comment on all data:

- Some of the data gap sample locations show exceedences of specific criteria outside the inferred edge of the landfill. We should keep this in mind for what this means in terms of possibly amending our site boundary. For example, SS-160 shows a lead concentration of 1250 mg/kg and is about 400 ft to the west of the inferred boundary.
- The soil, sediment, surface water data appear to indicate that the boundary in southern portion of the site may not be appropriately characterized.
- Sediment sample locations SS-162, SS-163 (only metals), SS-164 (pesticides also) contained elevated metals and PCBs. Sediment location SD-38 also contained elevated metals, PCBs and pesticides.
- Soil sample locations SS-131, SS-132, SS-133, SS-134, SS-135 contained elevated PCBs. Soil sample location SS-136 contained elevated PCBs and arsenic.
- Surface water sample locations SW-38 and SW-44 contained elevated metals and pesticides.

(USACE/CDM) Here is a summary of where EPA might want to consider requesting additional soil, surface water or sediment samples; this is based upon further review of the soil, surface water and sediment data at and near the edge of the landfill. Concentrations noted below exceed NJDEP cleanup standards.

Soil – EPA may want consider samples “stepped out” from the following locations

SS-132 exhibited 0.79 mg/kg PCB. This sample also exhibited 0.3 mg/kg benzo(a)pyrene; this PAH was also found in samples north of the landfill at similar concentrations (possible background condition). Consider PCB delineation.

SS-144 exhibited 561 mg/kg lead and 35.1 mg/kg arsenic. SS-143 exhibited 79.9 mg/kg vanadium, which was not detected in SS-144 (SS-144 was collected as a “step-out” from SS-143). Both

exhibited benzo(a)pyrene similar to the samples north of the landfill. Consider delineation of metals. SS-160, west of SS-144, exhibited 1,250 mg/kg lead and 87 mg/kg vanadium along with benzo(a)pyrene and benzo(b)fluoranthene; the latter with associated blank contamination. Consider further delineation of metals in this area.

POI-10 exhibited 1,510 mg/kg lead, 49,900 mg/kg copper and 91.6 mg/kg PCB (2.05 mg/kg PCB congeners). This location is on the order of 100 feet from the edge of the surface waste/debris. Consider delineation of metals and PCB.

SS-152 exhibited about 0.7 mg/kg each of benzo(a)anthracene, benzo(b) fluoranthene and indeno(1,2,3-cd)pyrene; however all were flagged “B” for associated blank contamination. Benzo(a)pyrene was detected at 0.79 mg/kg and not flagged B; and was found at similar concentrations north of landfill. It may not be worthwhile to further delineate based on the blank contamination, but should be considered.

SS-157/158 both exhibited PCB; “step out” sample 158 had a concentration of 0.25 mg/kg, fractionally above the standard of 0.2 mg/kg. Perhaps not worth further PCB delineation.

SS-133/134 – Fractional exceedances of PCB standard; consider further delineation.

SS-137/138 both exhibit PCB with a sharp apparent concentration gradient from 1.178 mg/kg PCB congeners to 0.224 mg/kg PCB congeners. Standard is 0.2 mg/kg so perhaps not worth further delineation. (not sure how standard relates to congeners as opposed to aroclors).

POI-6 exhibited 2,570 mg/kg lead, along with benzo(a)pyrene. Sample is about 100 from edge of surface waste/debris; consider delineating lead.

Surface Water

CDM Smith would like to know more about current ARCADIS understanding of surface water behavior at the site. Assuming that surface water flows southerly, we see that there is a background condition of arsenic, and sometimes copper, benzo(a)pyrene, dibenz(a,h)anthracene and 4,4'-DDT. Several additional metals and compounds exceed the standard on and adjacent to the landfill. The southernmost surface water sample, SW-26, had no exceedances other than arsenic, at similar concentration to background (in general arsenic does not appear to be elevated at the site at all). This suggests that the surface water impact has been delineated although SW-26 represents a single sample on a single date and it might be advisable to further confirm delineation.

Sediment

Following similar logic as the surface water, the southern-most sediment samples, SD-26 and SD-164 show similar compounds and concentrations for most parameters as background samples to the north. Exceptions are 2-butanone and heptachlor at SD-26, and bis(2-ethyl hexyl) phthalate and heptachlor at SS-164. Consider further delineation in this area.

(NJDEP)

A. Soil Comments:

1. According to the legend on Figure 4a, the red-slashed area represents “Waste and debris observed on ground surface but not observed or anticipated to be below ground surface”. It was noted that sub-surface soil sample results shown for samples SS-63, SD-2 and POI-14 are contradictory to this statement. Vertical delineation may be incomplete.
2. Areas of incomplete soil contamination delineation appear to include the southeastern, northwestern, and eastern areas of the landfill, and potentially, areas where it is indicated “data not yet received”.
3. In addition to Human Health Soil Remediation Standards (SRS), NJDEP has soil Ecological Screening Levels (ESLs) that need to be included in the evaluation of soil sample results.

4. It was noted that lead and a few select other metals concentrations are elevated in soil and ground water on the western side of the landfill, in the red-hashed area. It appears delineation is incomplete in this area and/or this may be a potential hot spot.

B. Ground Water Comments:

1. The tables on the Figures, which list the NJDEP Soil Remediation Standards (SRS) and NJDEP Ground Water Quality Criteria (GWQC) should identify the units, which are in milligrams per kilogram (mg/kg) and parts per billion (ppb) respectively. The GWQC table should include mercury, which is a contaminant of concern with a GWQC of 2 ppb.
2. There was no sample collected from well X-7. However, this well is located outside of the observed landfill area to the northwest, and there is no soil data in the vicinity to suggest this is within a landfilled or contaminated area. Samples from other wells located fully outside of the known landfill area (i.e. X-3, X-6, MW-4, and MW-8) only had reported exceedances of iron, aluminum, and manganese. While these compounds can be considered naturally occurring, levels of these compounds are sometimes notably higher within the landfill area. This should be considered when evaluating the ground water data and when determining whether the waste within the landfill is contributing to the concentrations of these otherwise naturally occurring compounds evident in ground water.

Arcadis proposes six new monitoring wells (MW-11 through MW-17) which ring the site close to the perimeter of the known landfill. The NJDEP agrees that perimeter wells in these locations are necessary.